

FRF triumph leads way to April launch

"All three engines up and running," came the voice from the Cape, and a week of round the clock operations climaxed with the successful 20-second firing of the shuttle orbiter's three main engines on the pad last week.

Ignition sparks, a gust of orange flame, and clouds of steam blew out from beneath the orbiter as the engines went from 94 to 100 and back to 94 percent of thrust--all in clear view on video monitors in mission control, but flight controllers kept their eyes on their consoles throughout the test firing.

Hundreds of JSC personnel worked long hours the days before the firing on Friday, Feb. 20, performing the same tasks they will perform during the launch

countdown of the first Space Transportation System mission, scheduled for the week of April 7.

"Go, no go" decisions were made by Flight Analysis Branch employees in a back room of the control center. They combined wind data from weather balloons with atmospheric data, ran launch simulations, then analyzed the loads which the vehicle would have to sustain.

In a similar exercise, Engineering and Development employees in Building 13 worked from 7 p.m. Thursday night until the firing at 8:45 Friday morning, running trajectories using the latest wind information, and checking the loads on critical areas of the orbiter. In the days before,

they worked three shifts monitoring all systems on the vehicle.

In the Mission Evaluation Room in Building 45, 200 employees monitored the entire countdown, essentially performing fixes and solving problems involving hardware and launch issues.

Late Thursday night, the light of the full moon competed with JSC building lights as the activity accelerated approaching T-O. Roughly three days before the firing, the ascent and orbit flight control teams began countdown activities--sending updated commands to the onboard computers, conducting voice checks and communications systems checkouts with the pad, and interfacing with the wind structural loads work.

At L-24 (24 hours before liftoff), flight controllers began the marathon monitoring that went through the night to the firing. The ascent team reviewed all systems with the Cape then handed the consoles over to the orbit team who activated flight control systems, brought up the fuel cells, and continued monitoring all systems.

At L-10 hours, the entry team continued the countdown monitoring systems, plodding page by page through the checklist. They turned over the consoles then to the ascent team at L-4 hours, with a full report on the previous night's work.

There were some delays in the countdown before the Flight Readiness Firing, which will probably result in hours being added to the STS-1 countdown. Electrical activity within five miles of the pad delayed loading of cryogenics in the orbiter's fuel cells Wednesday evening. The installation of special blast doors to protect the solid rocket boosters during the FRF caused another delay.

Maintenance of an emergency launch pad power supply and switching the solid rocket booster hydraulic control system to a flight condition took longer than expected Sunday night, as did the fuel cell purge at T-44 which assures there is nothing but pure liquid oxygen and liquid hydrogen in all the plumbing.

"This was the first time through the countdown, and some things just take longer than expected," said JSC Center Director Christopher C. Kraft, Jr. "A main problem was just clearing the pad, getting people off the pad in time."

The tempo of the loop dialogue picked up after the 20 minute pre-planned hold at T-20, as the Operational Test Conductor at the Cape received one crisp acronym-filled report after another on all systems. "Is there anyone who has a hold?" he asked at one point. No one responded.

There were more interrogations with the typical response: "That's verified." At T-9, he asked again, "Any reason not to resume the count?" Again no one responded.

For the last nine minutes of the countdown the ground launch sequencer then the automatic sequencer controlled each step of the final checkout, and there was intense concentration in the control center.

"We have ignition," came the voice from the Cape, and all eyes stayed bonded to the consoles. The sound of the

See EMPLOYEES Page 4

NASA

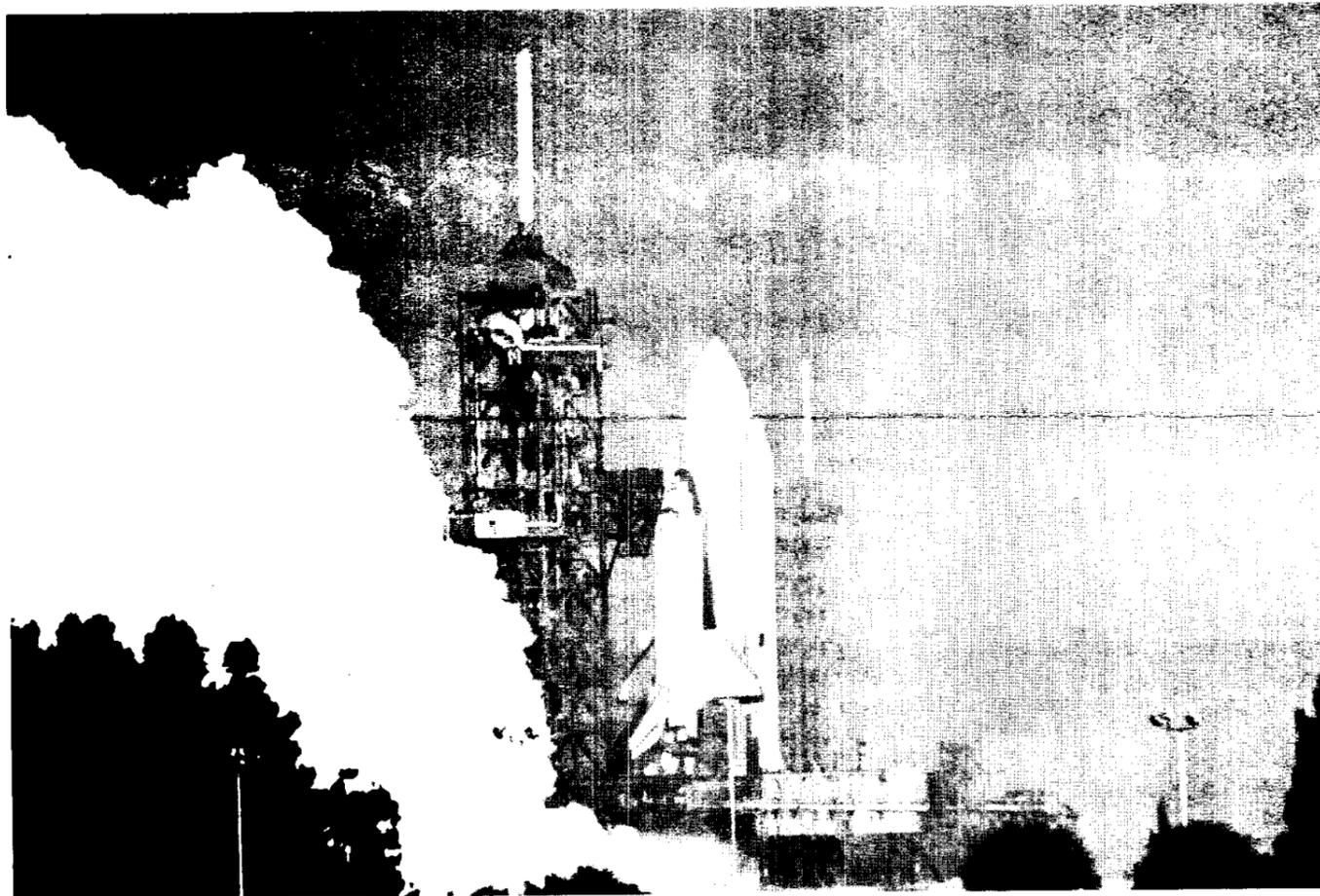
Lyndon B. Johnson Space Center

Space News Roundup

Vol. 20 No. 5

February 27, 1981

National Aeronautics and Space Administration



Orange flame and clouds of steam blew out from beneath the orbiter

Reagan budget gives priority to NASA

Out of a \$41.5 billion budget cut in the federal government, NASA may sustain less than a half billion dollar reduction under the budget proposed by President Reagan for 1982. While Reagan's budget is a program of "across-the-board restraint," the NASA allocation will increase over 1981, an increase which is "needed to maintain progress in the space shuttle program to meet civilian and critical defense needs," a White House paper on the NASA budget reads.

In his State of the Union address Feb. 18, President Reagan said, "The space program has been and is important to America, and we plan to continue it.

"We believe, however, that a re-ordering of priorities to focus on the most important and cost-effective NASA programs can result in a significant savings."

The White House plan for NASA retains "strong core programs," but eliminates or defers projects whose "potential contribution is more narrowly focused,"

Proposed Budget:	(in millions of dollars)					
	1981	1982	1983	1984	1985	1986
Current base:						
Budget authority	5,534	6,565	6,795	5,924	5,315	5,011
Outlays	5,283	6,273	6,642	6,185	5,519	5,107
Policy reduction:						
Budget Authority	-75	-330	-248	90	390	200
Outlays	-60	-241	-334	-86	156	124
Proposed budget:						
Budget Authority	5,459	6,235	6,547	6,014	5,705	5,211
Outlays	5,223	6,032	6,308	6,099	5,675	5,311

and those which have had "small past investments." Named are the gamma ray observatory, the Venus orbiting imaging radar project, and some Spacelab experiments; however, the Voyager missions "to Saturn and beyond" and the space telescope have "full support" under the Reagan plan.

"A planetary project, such as the Galileo mission to Jupiter" will be the next step in "an orderly progression in

the exploration of the planets" which the Reagan administration hopes to maintain; and U.S. participation will continue, but at a reduced level, in the international solar polar mission.

While continuing support for research in remote sensing and Earth resources satellite technology, the Reagan plan calls for "deletion" of projects which "unnecessarily subsidize or compete with the private sector." The plan cites

continued research in Earth resources technology as "critical" along with research to advance communications and understand weather and climate.

Part of the Reagan space proposal would advance communications technology by increasing the useful range of radio frequencies.

Reagan's budget proposal would "eliminate new projects" in NASA aeronautics while still continuing to "maintain the U.S. technological lead in military and civil aeronautics." With reductions in construction projects and in direct NASA energy technology work, the proposed funding for the next six years sees the NASA budget peaking in 1983, with the completed production of a fleet of space shuttle orbiters and with continuation of "critical" U.S. space program projects.

The proposed funding increases the NASA budget from 5.5 to 6.5 billion dollars from 1981 to 1983, but returns to less than \$5.5 billion by 1986.



Bulletin Board

Workshop on Manned Mission to Mars Takes Place in Colorado this Spring

"The Case for Mars," a workshop, will be held April 29 to May 2 at the University of Colorado to bring together the widespread but uncoordinated efforts of many groups investigating a step-by-step approach to exploring space and making a manned mission to Mars. The group wants to emphasize the utilization of Martian resources with the goal of establishing a continued presence on the planet's surface. Persons interested should contact Chris McKay at the Department of Astro-Geophysics, University of Colorado, Boulder, Colo. 80309.

Sailing Courses Offered at Harris County Park

Basic and Intermediate Sailing courses sponsored by the Clear Lake Sailing Club, the Lake Houston Sailing Club, and Lido Fleet 40 will again be offered this spring. Richard Hoover, five years Lido Fleet Champion, will be the course director for the 14th year. Basic Sailing will be offered in two series in March, and Intermediate Sailing will be offered in April. For more information, call 488-3921, or 529-0876.

NARFE to Hold Dinner with Entertainment in March

NARFE was organized 60 years ago to protect and secure retirement benefits for the retired federal employee and family. The Houston-NASA Chapter 1321 of NARFE will meet for a covered dish dinner on Tuesday March 17 at 6 p.m. in the Clear Lake Park Bldg., NASA Road One. The San Jacinto College Choir will entertain. Visitors are welcome, and all active employees who are over 50 years of age and have at least five years of service are eligible for membership. Contact James Grimwood at 488-3972 for further information.

At left Astronaut Anna Fisher approaches a work restraint unit during a flight of the KC-135 aircraft. The WRU will be used during STS extravehicular activities to assist astronauts in closeup work. Looking on are Larry Magers and Robert Trevino.

A reader responds

To the editor:

Regarding "Your paycheck's not late, it's been recomputerized," article in the Feb. 13 edition of Space News Roundup:

Mr. Beisel's article seems to be an attempt to smooth the ruffled feathers of those of us who may not have called about this slip in pay day. It doesn't quite make its objective for several reasons:

Attached is a copy of the 1980 schedule of holidays, pay periods, and pay dates. It clearly shows Friday is to be the pay date. If Monday were the "official" pay day, the "official" calendar should have shown it as such.

Mr. Beisel didn't mention in his article why the pay date slipped one day. Stating that the net effect is being paid

PAY DATES 1980						
S	M	T	W	T	F	S
MARCH						
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

one day later does not explain why.

Saying the payroll is "recomputerized" says nothing. Why can't funds be transferred electronically on Monday--or even on the Friday listed on the attached?

In essence, this note is intended to complain about this slip, and to mention that the article is misleading and inadequate.

Name withheld by request.

Temperature policy not likely to change

'Now is not the time to increase our utility bills'

Restrictions holding temperatures in public buildings to a maximum of 65 degrees in winter and no lower than 78 in summer were reportedly cancelled last week by President Reagan, but federal employees should wait for further word before throwing out their thermals.

Reagan's proclamation submits that "voluntary and market incentives will achieve substantially the same benefit without the regulatory cost," implying that the price of fuel is at present so high that most organizations will continue the energy saving practice regardless of federal regulations.

Managers at NASA Headquarters have not yet received official word of the change in policy, so "the restrictions are not officially

cancelled yet," said Frank Durso, Utilities and Energy Branch Chief in the Facilities Division at Headquarters.

He added that NASA may maintain energy restrictions in some form as NASA policy. "NASA's present standby conservation plan has been very successful," Durso said. "To revert back now, we would have to cut funds from other areas of the budget."

"It is not just a question of a presidential edict," Durso said, "but does an agency want to spend more money. Now is not the time to increase our utility bills."

Also, in spite of presidential announcements, there are still GSA regulations on the books which restrict temperatures in government buildings.

The announcement "caught everybody by surprise," Durso said, but he stressed that whatever NASA decides in terms of changing office temperatures, it won't be in the next few days. "It's a matter of time for them to get the word down to us," Durso said.

Earl Rubenstein of JSC Center Operations added that then "the policy comes down the chain, like the Carter proclamation did."

Durso said that at this time, NASA finds the restrictions a good "modus operandi."

"Complaints have been minimal," he said, "and the cost of reverting back would be very high."

At right, Black History program participants open the Feb. 17 event in Building Two Auditorium with the singing of the Negro National Anthem, "Lift Every Voice and Sing." "Space, Direction for the Eighties and Nineties" was the theme of this year's program, in keeping with the nationwide theme of creating role models for youth. Organizers at JSC invited Houston area high school students who are active in aerospace projects at their schools to the event at NASA. The panel discussion covered the future in space, especially the applications of space technology and the challenge of aerospace careers. Pictured, from left to right, are Tom Baugh, Vivian Ayers (visiting artist), Rae Chambers, Henry E. Clements, Willie Williams, Shirley Price, and Phyllis Stovall.





Christopher C. Kraft, Jr., JSC Center Director, was named an Honorary Fellow in the American Institute of Aeronautics and Astronautics this month, the highest membership rank and recognition of achievement the Institute can bestow upon its members.

A group of "slightly overweight" employees in Center Operations Logistics Division issued a challenge last month to other groups in JF7 to a weight losing contest.

Each team weighs as a group on Mondays on the Building 420 warehouse scales. Total weight is then reported to Flab Fighters United, headquartered in Building 419, Room 186A.

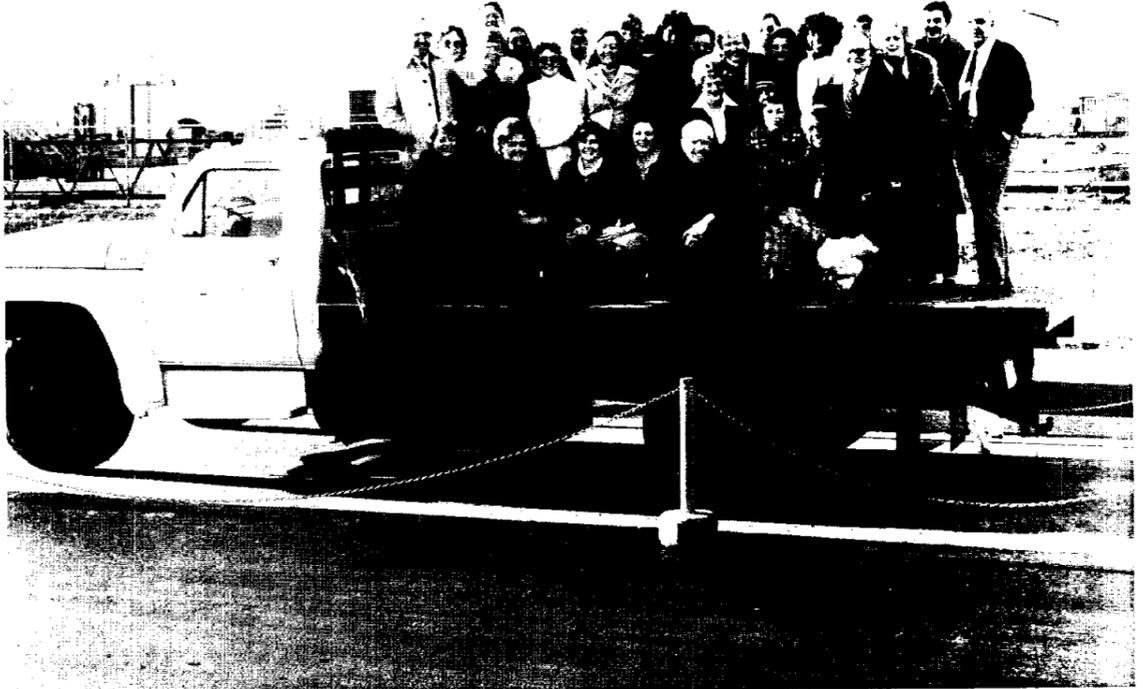
The Flab Fighters are shown at right during a weighing session.

On the last Friday of each month the group losing the smallest percentage of total weight must serve all the other groups a lunch consisting of salad, raw vegetables, and the like.

At last report, the entire group, consisting of 32 individuals, had lost 168 pounds in a month. Leading team was "Management Mass," who had gone from 698 pounds to 673.

"Weight Shakers" had reduced from 2068 pounds to 2014. "Slim Chickens & the Roosters" had taken off 50 pounds, from 1390 to 1340, and "Over Supplies" went from 1491 to 1452.

A weekly newsletter circulates to the weight conscious employees, with encouraging messages such as, "Overheard in the hall: We gonna get chew," and "Get the Management Mass."



Dave Homer initiated the project, just after the Christmas holidays, when he decided he needed support in his own efforts to return to his summer physique, and others he worked with needed support as well.

"Keep up the good work," he writes in one newsletter. "Those who didn't do so good this week are gonna have to take up the slack. Let's try harder."

Watch out for those "Over Supplies."

Cookin' in the cafeteria

Week of March 2 - 6

Monday: Cream of Potato Soup; Franks & Sauerkraut; Stuffed Pork Chop; Potato Baked Chicken; Meat Sauce & Spaghetti (Special); French Beans, Buttered Squash, Buttered Beans. Standard Daily Items: Roast Beef, Baked Ham, Fried Chicken, Fried Fish, Chopped Sirloin. Selection of Salads, Sandwiches and Pies.

Tuesday: Navy Bean Soup; Beef Stew; Liver w/Onions; Shrimp Creole; Smothered Steak w/Dressing(Special); Corn, Rice, Cabbage, Peas.

Wednesday: Seafood Gumbo; Roast Beef, Baked Perch; Chicken Pan Pie; Salmon Croquette (Special);

Mustard Greens, Italian Green Beans, Sliced Beets.

Thursday: Beef & Barley Soup; Beef Tacos; Diced Ham w/Lima Beans; Stuffed Cabbage (Special); Ranch Style Beans, Brussels Sprouts, Cream Style Corn.

Friday: Seafood Gumbo; Fried Shrimp; Deviled Crabs; Ham Steak; Salisbury Steak (Special); Buttered Carrots, Green Beans, June Peas.

Week of March 9 - 13

Monday: Cream of Chicken Soup; Beef Burgundy over Noodles; Fried Chicken; BBQ Sausage Link; Hamburger Steak (Special); Buttered Corn; Carrots; Green Beans. Standard Daily Items: Roast Beef, Baked Ham, Fried Chicken, Fried Fish, Chopped Sirloin. Selections of Salads, Sandwiches and Pies.

Tuesday: Beef Noodle Soup; Baked Meatloaf; Liver w/Onions; BBQ Spare Ribs; Turkey & Dressing (Special); Spanish Rice, Broccoli, Buttered Squash.

Wednesday: Seafood Gumbo; Broiled Fish; Tamales w/Chili; Spanish Macaroni (Special); Ranch Beans, Beets, Parsley Potatoes.

Thursday: Navy Bean Soup; Beef Pot Roast; Shrimp Chop Suey; Pork Chops; Chicken Fried Steak (Special); Carrots, Cabbage, Green Beans.

Friday: Seafood Gumbo; Broiled Halibut; Fried Shrimp; Baked Ham; Tuna & Noodle Casserole (Special); Corn; Turnip Greens, Stewed Tomatoes.

Correction

In announcing the STS-1 Launch Honorees last issue, we inadvertently left out an employee.

Deane J. Schwartz is a quality assurance specialist who has been on assignment to Kennedy Space Center on the OV-102 project.

Schwartz has provided "outstanding quality assurance support" for the TPS (Thermal Protection System) installation task at KSC while on extended tour of duty periods from the Palmdale, Calif. NASA facility.

At Gilruth Rec Center

Beginner's Country Western Dance - Learn the latest in C & W dance steps as well as the old standbys. The course is designed for people who have not had any lessons. The class meets for 6 weeks, beginning Monday, March 9 and the cost is \$18.00 per couple.

Aerobic Dance - Part Dance - Part Exercise. Class meets from 9:00 - 10:00 a.m. Mondays and Wednesdays beginning March 16th. Cost is \$48.00 for this 12 week course.

Saturday at the Movies - Tickets are now on sale at the Bldg. 11 Exchange Store for the next children's movie at the Gilruth Recreation Center. The feature presentation will be the

Disney classic, "Lady and the Tramp". The program also includes cartoons, popcorn and coke and the cost is \$1.00 per ticket for this February 28th program. Showtime is 10:00 a.m.

The First Annual Space Shuttle Open Invitational Softball Tournament - This tournament is for both men and women and will be held March 13, 14, and 15. The entry fee is \$65.00 per team.

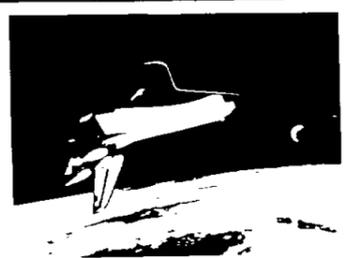
The NASA Galveston Area Industrial Recreation Council 1981 Photo Contest is now in progress. Entry deadline is March 6. This contest is for NASA employees only. For more information call Carl McCollum at x3594.

A "Ladies Self Defense" seminar will be conducted March 14 from 12:30-3:30 p.m. in room 206 at the Gilruth Center. This is a free seminar so come on out.

Defensive Driving - Learn the art of safe driving and qualify for a 10% discount on your auto insurance. Class meets from 8:00 a.m. - 5:00 p.m. on March 21.

Basic Auto Mechanics - Learn to perform minor repairs and preventative maintenance on your car and save money at the same time. The course is strictly for beginners and meets on three Thursdays beginning March 26 from 7:30-9:30 p.m. and one Saturday, April 4. The cost is \$16.75 per person.

Roundup deadline is the first Wednesday after publication.



The Roundup is an official publication of the National Aeronautics and Space Administration, Lyndon B. Johnson Space Center, Houston, Texas, and is published every other Friday by the Public Affairs Office for all space center employees.

Editor..... Kay Ebeling

Roundup Swap Shop

Ads must be under 20 words total per person, double spaced, and typed or printed. Deadline for submitting or cancelling ads is 5 p.m. the first Wednesday after publication. Send ads to AP3 Roundup, or deliver them to the Newsroom, Building 2 annex. No phone-in ads will be taken. Swap Shop is open to JSC federal and on-site contractor employees for non-commercial personal ads.

Carpools

Going to the poorhouse via the gas pumps! Must carpool! Galveston/Bayou Vista to Bldg. 13. 8-4:30. Non-smokers, Please. S. Hamel, x3076.

Want to carpool from Heritage Park to Bldg. 1 8:00 to 4:30 shift. x5384 or 332-8271 after 5.

2 person carpool seeks 3rd or 4th person 7:30-4:00 nonsmoking, Edgebrook-Alameda Mall Area. Call Paula x4660 or Tom X2653.

'71 Ford LTD Brougham, 351 CID, 106,000 mi., engine and body in good condition. \$600 482-7073.

Cars and Trucks

WANTED: 1969 Chevelle factory service manuals. Williams x7447 or 488-2432 after 5 pm.

1969 Cadillac, 68k miles, good condition, \$1200, Bob Rao x2291 or 482-3697.

1976 Lincoln Continental Town car Burgundy color inside and out, moon roof, loaded very good condition \$2500 x4721 or 946-5459.

1980 Subaru 36 mpg; 5 sp; 10,000 miles \$5400. Maley x5867 or 488-6871.

1976 Fireball 25' travel trailer fully self contained excellent condition \$5500.

350 Chevy engine, rebuilt w/15,000 mi. call Nering x7204 or 481-0608.

1978 Prowler travel trailer, 23 1/2 ft. air conditioning, awning, electric jack, TV antenna plus more, \$4000. x2660 or 554-6733 after 6

'79 Delta 88, air, am/fm/cassette, cruise control, convenience package, 3200 mile, \$4,600. 484-1215 or 333-6445.

Cycles

1972 400 cc Husgvarne, motorcross. Runs good, \$400. Reeves x3087 or 484-7233 after 5.

For Sale: 1973 Hondas CB350 and CB450 call 482-7042 after 5.

Household Articles

G. E. coppertone drop-in stove and oven plus stove hood all for \$50.00. 946-5459.

Matching recliners, \$80 each or both for \$155. Nice 3 way table lamps, \$35 ea. or both for \$45 after 5. 332-5926.

Modern sofa, matching chair/ ottoman, 2-end tables 1-coffee table light solid brown. Excellent cond. \$500 Sarah x3770.

Large dog house-35. Wood chest 4 drawers \$20. Tire with rim 225-15 radial \$30. 482-6609 after 5.

For Sale: Sofa, 80", 3-cushion, Early American, high back, burnt orange and floral print. Excellent condition \$175 - 946-1869.

Miscellaneous

Betamax VCR tapes-L750-\$16.50 L830-\$18.50. 333-2974.

Audiovox car radio. AM/FM Stereo/8 track. \$50. x2660/554-6733 after 6.

For Sale: 2 smoke guard smoke detectors \$10. ea. 334-3370

For Sale: Azaleas & Crepe Myrtles, (reds, pinks, & whites) one and five gal. cont. size. call Ray x5250.

For Sale: Chlorine Tablets (1"size, 90% chlorine) 25 lb. plastic containers-\$75 (includes tax) 479-8141 after 6.

Round trip airline ticket to Denver, \$76, March 13 to March 16. x3821 or 488-7387 after 5:30.

'35 mm slide projector, Bell & Howell slidemaster, 17 trays (each holds 40 slides), \$40. Bays x4031 or 488-6565 after 5.

Musical Instruments

FOR SALE: Bundy-Selmer B-flat Clarinet. Good condition \$150 G.C. Guthrie 946-7848 or x2938.

Pets

AKC reg. Toy Poodle, 4 yrs old black male, shots \$75. 944-742.

AKC Blue Merle Shetland Sheepdog - Female. 12 months old. Very gentle. Needs lots of love. \$150. x5384 or 332-8271 after 5.



AND SEND YOUR COST REDUCTION SUGGESTION ON JSC FORM 1150 TO COST REDUCTION OFFICE BE

Cartoon by Russ Byther

Brittany Spaniel pups, reg. Available April 3rd. Males \$150. Females \$125. Brady x4895 after 6. 585-3124.

AKC black male Toy Poodle, 4 yr. old. shots \$75. 944-7042.

Property and Rentals

For sale: 4 lots on Lake Livingston Trinity Cove wooded all or part. after 5. 481-8717 - 941-7994 - 991-3557.

For Rent: 20' Winnebago motorhome, sleeps six, fully self contained, reasonable rates. Reeves x3087 or 482-7233 after 5.

2-2 furnished apartment, sleeps 3, 1 mile to Avenue E. Gatehouse available 3/17 through 6/17. Co-op returning to school. \$139 total. Call 480-3281.

For rent: Galveston By-the-Sea Condominium. Two bedroom furnished apartment for rent by day week or month. Clements 474-2622.

Stereos & Cameras

REALISTIC TR-884 stereo 8-track record/play deck. Like new, received as Xmas gift, \$75. 474-4991 after 5.

Zenith Console am/fm turntable, \$125 Sharp am/fm 8-track, \$100. CB-best offer, 26' Hollywood boat \$1,500. 334-2800.

TV: Heathkit GR-295 23" color TV assembly manual and extra tubes \$225. 944-7042.

Heathkit GR-295 23" color set, maple cabinet, works well, extra tubes, \$225. 944-7042.

Amateur Radio YAESU FT-DX-570 80 thru 10 meter XCVR, SSB 560 watts CW, with mike and Yaesu phone patch. \$450 or best offer. Call Tom Harmon, x5281 or call 480-6075 after 5.

Employees work long hours to support firing

Continued from Page 1

blast came over the loop to mission control.

"We have engine shutdown," came the voice from the Cape, after what many controllers said was the shortest 20 seconds they'd experienced.

One person called out, one person applauded, but the initial reaction was a dazed silence. The success of this firing means nearly all systems are ready for the April launch--the first American manned flight since 1975. Mission control personnel have gotten out of the habit of

cheering and lighting cigars.

However, after the FRF, as they watched replays of the video coverage, the cheers were released, and spirits were sustained high for days following the firing, although minutes after the test everyone was back at work.

The FRF was to be followed by a series of milestones: securing the engines, unloading the fuel cell cryogenics, repair of the external tank insulation (an operation which should take 13 days), then final launch verification.

At Space News Roundup press time, modifications had begun for repair of the 17 cork insulation panels which became debonded during a tank/detank test last month. There is some difficulty in the repair due to the location of the insulation, and a platform and rotating service structure access arm were under construction to allow technicians to reach the insulation.

The final long duration mission simulation was to take place at JSC Feb. 24-26, a final step in the 11-day Mission Verification Test. Return to launch site aborts and abort once around exercises were performed with T-38s and ground

controllers the days immediately following the FRF.

Elation spread throughout NASA after the successful engine firing. "This was just a superb test," said Acting NASA Administrator Dr. Alan Lovelace as he congratulated flight controllers on "a super job." Richard G. Smith, KSC director, likened the test firing to "the final play-off game before the Super Bowl."

Astronauts John Young and Robert Crippen, the STS-1 prime crew, saw the firing from the air above the orbiter. Young was circling about 4000 feet above the launch pad in a shuttle training aircraft. Crippen was in an identical craft 1000 feet higher.

"Well, it looks like it was successful," Young was quoted as saying upon landing at the shuttle runway at the Cape after the test.

"We must encourage industry to use the technology we've developed."

President Reagan
February 5, 1981



Young at controls: final sim took place this week

CU Board election set for March 6

Roy Stokes, who chairs the JSC Federal Credit Union Nominating Committee, announced recently the candidates selected to run for positions on the Board of Directors and Credit Committee.

The five candidates nominated for the three board positions are pictured below. Two nominations were made for the Credit Committee positions: Patrick Whelan and Curtis Collins.

The elections will take place on Friday, March 6, from 9 a.m. to 3 p.m. at the JSCFCU Building, and from 4 to 7:30 p.m. at Gilruth Center.

All credit union members are encouraged to vote.



James McBride

NASA (CG3) Crew Training and Procedures Division. Has served on Credit Committee.



Tom Krenek

NASA (BC4) Program Procurement Division. Director and Past President



Baley Davis

NASA (AH7) Personnel Office



Richard Drown

NASA (EE3) Tracking and Communications Development Division



David Whittle

NASA (CA6) Software Integration and Flight Techniques Office.

Manned Flight Awareness

Flight Readiness Firing

The 20-second FRF test firing of the space shuttle main engines was completed Feb. 20. This milestone clears the way for a launch now estimated to be in April, depending upon the time required for repairs to be accomplished on the external tank. (See below.) The count for the firing was delayed for about an hour because of an orbiter cabin closeout problem; however, once this was cleared, the count continued without interruption. At this time, there are no known problems that would cause further delays.

STS-1 SLA Repair Progress

The ET super light ablative repair procedure is being performed on the main propulsion test article at National

Space Technology Labs in Mississippi using the same crew and same repair techniques which will be followed at Kennedy Space Center to repair the STS-1 ET SLA panels which debonded during the recent tank/detank test. When these test repairs are completed, the MPTA will be filled with liquid hydrogen and tests will be conducted to determine the success of the procedure. If successful, the same crew, using the same tools, materials, and techniques, will return to KSC and initiate repairs on STS-1 ET.

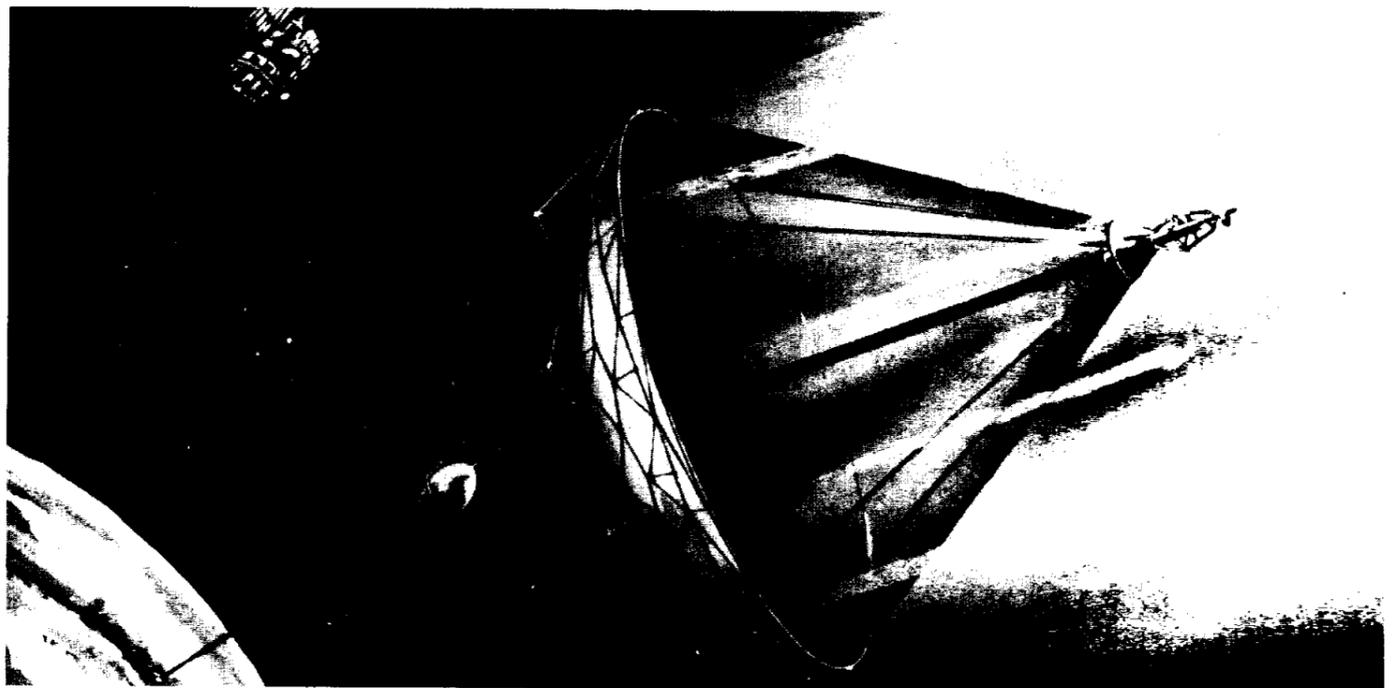
Spare Main Propulsion Engine Test Successful

The SSME No. 2009 is being shipped to KSC following completion of acceptance testing at NSTL. The tests

included a 1.5 second ignition test, a 100/second calibration run, and a 520 second acceptance run. This engine provides a backup in the event one of the three STS-1 engines is found defective when inspected following the STS-1 FRF.

Manned Flight Awareness Motivational Material Distribution

Three posters, a desk card entitled "Launch Fever," and a series of decals denoting important launch milestones have been distributed to JSC and local contractor employees as a portion of the JSC Manned Flight Awareness effort reminding personnel of their key responsibilities in the success of the space shuttle program.



NASA demonstrates sun-powered laser

The world's first gas laser powered directly by sunlight has been demonstrated by researchers at NASA's Langley Research Center, Hampton, Va.

The directly sun-powered laser would eliminate the need in current laser systems for intermediate energy conversion to achieve lasing. This eliminates the energy conversion components and reduces the systems' size, weight, complexity, and cost.

The drawing shown above is one concept of a solar powered laser system.

This disk reflects light from the sun to a gas-filled tube, which emits a high intensity light beam. This laser beam can be directed to various locations and transformed into conventional energy forms, such as electricity.

NASA's interest in lasers includes such applications as remote sensing of the Earth and its environment, optical data processing and transfer, and power transmission for space operations.

Langley researchers have made a major breakthrough in development of the

system by achieving the first positive evidence of the solar pumping of a gas laser.

In one concept, a space-based solar-powered laser system radiates a laser beam to remote space operations. At the operations site, the laser beam can be transformed into conventional energy forms such as electricity or heat.

The laser beam could also be converted to propulsive energy in a specially designed space engine which would provide economical orbital transfer of payloads.